The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of making an extreme ultraviolet optical element comprising:

providing an aqueous sol including a solid phase of an amorphous titania-containing silica powder, wherein said amorphous powder is formed by the flame hydrolysis of organometallic silica precursors and organometallic titania precursors, and the titania and silica in said powder are mixed on an atomic scale;

forming the sol into a titania-containing silica shaped gel having a homogenous distribution of titania;

drying the titania-containing silica gel to provide a dried titania-containing silica body; and

heating the titania-containing silica body to a temperature sufficient to form a glass body.

2. (cancelled)

3. (cancelled)

4. (original) The method of claim 1, wherein the concentration of titania in the silica powder is between about 3 weight percent and 10 weight percent.

5. (original) The method of claim 4, wherein the concentration of titania in the silica powder is between about 6.5 weight percent and 7.5 weight percent.

6. (original) The method of claim 4, wherein the extreme ultraviolet optical element has a homogeneous CTE in the range of about + 30 ppb/° C to –30 ppb/° C between 20° C and 35° C.

7. (original) The method of claim 6, wherein the extreme ultraviolet optical element has a homogeneous CTE in the range of about + 10 ppb/° C to –10 ppb/° C between 20° C and 35° C.

8. (original) The method of claim 7, wherein the homogeneous CTE has a variation of less than about 10 ppb/°C.

9. (original) The method of claim 6, wherein the glass body has a diameter of at least about 10 centimeters and a length of at least about 10 centimeters.

10. (original) The method of claim 4, wherein the heating is performed at a temperature sufficient to melt crystalline phases.

11. (original) The method of claim 10, wherein the heating is performed at a temperature exceeding 1600° C.

12. (original) The method of claim 1, wherein providing a sol includes mixing titania-containing silica powder with alkoxides containing titanium and silicon.

13. (original) The method of claim 12, wherein the ratio of titanium to silicon in the powder is approximately equivalent to the ratio of titanium to silicon in the alkoxides.

14. (original) The method of claim 1, wherein providing a sol includes mixing a first solution of titania-containing silica powder in an aqueous acid with a second solution of titania-containing silica powder in an aqueous base.

15. (original) The method of claim 1, wherein drying the gel includes solvent exchange.

16. (original) The method of claim 15, wherein drying the gel further includes hypercritical drying at temperatures and pressures higher than the critical values of the solvent.

17. (original) The method of claim 16, further including heating the gel in the presence of a halide gas.

18. (original) The method of claim 16, further including heating the gel under vacuum pressure.

19. (original) The method of claim 1, further including finishing the body into an optical element selected from the group consisting of a photomask substrate, an extreme ultraviolet optical element, and an extreme ultraviolet condenser lens.

20. (original) A method of making an extreme ultraviolet optical element comprising:

providing an aqueous sol including a mixture of a solid phase of titania doped silica powder having a concentration of titania between about 3 weight percent and 10 weight percent, a titanium containing alkoxide, a silicon containing alkoxide, and water;

forming the sol into a titania-containing silica shaped gel having a homogenous distribution of titania;

drying the titania-containing silica gel to provide a dried titania-containing silica body by exchanging said water with an exchange solvent having a critical value temperature and a critical value pressure and then hypercritical drying at a temperature and a pressure higher than said exchange solvent critical value temperature and pressure; and

heating the titania-containing silica body to a temperature exceeding 1600° C to form an extreme ultraviolet optical element glass body having a homogeneous CTE in the range of about + 30 ppb/° C to –30 ppb/° C between 20° C and 35° C and a titania concentration between about 3 weight percent and 10 weight percent.

21. (original) The method of claim 20, wherein the homogeneous CTE has a variation of less than about 10 ppb/°C.

22. (withdrawn) A titania-containing silica glass body having a length greater than about 10 cm, a width greater than about 10 cm, a titania concentration between about 6.5 wt% and about 7.5 wt%, and a CTE variation of less than about 1 ppb/°C.